

REMARKS

The Examiner indicated that claims 7-10 would be allowable if each were rewritten to include all of the limitations of claim 1. Claims 7-10 have been rewritten as independent claims to place them in condition for allowance.

Claims 1, 2, 5-11, and 21, stand rejected under 35 USC 112, second paragraph. Claim 1 has been amended in accordance with the examiner's comments. Reconsideration and withdrawal of the amendment is respectfully requested.

Claims 1, 2, 5-11, and 21 were rejected under 35 U.S.C. §103 as being obvious in view of Robinson et al. (US 3,769,809) and Kim (US 6,109,048). The rejections of the individual claims are not articulated. In fact, it appears that the detailed rejection as set forth in paragraph 5 of the Office Action is directed only to the limitations of claim 1. Applicants respectfully traverse the rejection.

The Examiner states that Robinson et al. teaches an auger-type ice maker having a motor that is controlled by a temperature sensor 51a that senses the temperature of the refrigerant at the outlet of the evaporator. The Examiner apparently recognizes that such control by Robinson et al. is merely simultaneous on/off control of the auger motor and the compressor motor. The Examiner concludes that it would be obvious to modify the Robinson device to include variable rotational speed control of the compressor motor as taught by Kim.

The Examiner has not discussed that portion of claim 1 that recites "a pressure regulating means for keeping the pressure of the refrigerant to be supplied to the evaporator at a specified low pressure." This feature is not taught in either Robinson et al. or Kim. While the Robinson et al. reference shows an expansion valve 16 on the inlet line to the evaporator, no means of control is shown, nor is there any discussion of maintaining the pressure of the refrigerant to be supplied to the evaporator at a specified low pressure. This feature of the present invention allows for the control of the amount of refrigerant flowing into the evaporator.

The Examiner also concludes that the recitation of the motor controlling means performing feedback control resulting in the degree of superheat of the refrigerant in the evaporator being kept constant is considered to be a mere functional statement of a desired result and not a positive structural limitation. Applicants disagree. This portion of claim 1 is set forth as a means plus function limitation. Performing feedback control and maintaining a constant degree of superheat is part of the stated function of the motor controlling means. As such, it is a limitation of the claimed device that has been improperly dismissed by the Examiner. Kim fails to teach these stated functions as part of his variable speed compressor. It

is the motor controlling means and its function, in combination with the pressure regulating means, which allows for increasing or decreasing the area where the refrigerant can make in the evaporator so that the freezing apparatus can maintain specified performance.

With regard to claim 2, it is again noted that no detailed rejection of claim 2 has been articulated by the Examiner. As noted above, the pressure regulating means as further described in claim 2, is neither taught nor suggested by the cited references.

With regard to claim 5, it is again noted that no detailed rejection of claim 5 has been articulated by the Examiner. Applicants note that, in Robinson et al., the inlet to the evaporator is at the lower portion of the evaporator, and not at the upper portion as set forth in claim 5. Running the water and refrigerant counter to one another ensures that the temperature of the refrigerant at the inlet is kept at a constant low temperature.

With regard to claim 11, it is again noted that no detailed rejection of claim 11 has been articulated by the Examiner. Claim 11 includes a performance inputting device for inputting performance of the freezing apparatus, and a refrigerant outlet temperature setting controlling means for setting the specified refrigerant outlet temperature in accordance with the input performance. These limitations are neither taught nor suggested by Robinson et al. or Kim, taken alone or in combination.

With regard to claim 21, it is again noted that no detailed rejection of claim 21 has been articulated by the Examiner. The limitations set forth in claim 21 are neither taught nor suggested by the cited references.

The examiner is reminded that the PTO has the burden of establishing a prima facie case of obviousness under 35 U.S.C. §103. Further, the PTO's own examination guidelines require that the examiner set forth a factual basis for the rejection and a supporting rationale. In this case, in particular with respect to the dependent claims, the examiner has failed to provide a proper factual basis with supporting reasoning to find the claims prima facie obvious.

Applicants have canceled claims 12, 14-20 and 22-29 as being directed to non-elected inventions. These claims were previously withdrawn from consideration. Claims 3 and 4 also stand withdrawn, but are dependent on claim 1. Accordingly, these claims should be rejoined with the allowance of claim 1.

For the reasons set forth above, it is believed that the application is in condition for allowance. Accordingly, reconsideration and favorable action are respectfully requested.

Respectfully submitted,  
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DATE

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